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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,942	04/05/2004	Rashid A. Zeineh		2302
7590	08/02/2005		EXAMINER	
Biomed Instruments Inc. 1166 E Valencia Drive Fullerton, CA 92831			MICHENER, JOSHUA J	
		ART UNIT	PAPER NUMBER	
		3644		

DATE MAILED: 08/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/816,942	ZEINEH, RASHID A.	
Examiner	Art Unit		
Joshua J. Michener	3644		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07/27/2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 27 July 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. An examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

A listing of registered patent attorneys and agents is available on the USPTO Internet web site <http://www.uspto.gov> in the Site Index under "Attorney and Agent Roster." Applicants may also obtain a list of registered patent attorneys and agents located in their area by writing to the Mail Stop OED, Director of the U. S. Patent and Trademark Office, PO Box 1450, Alexandria, VA 22313-1450.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables

having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).

"Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
- (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the

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claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.
3. The disclosure is objected to because of the following informalities:

- Grammatical errors
- Punctuation errors
- Misspelling
- Mislabeling of figures

Many of the above listed errors are found throughout the specification. The examiner is not required to edit and correct the application. Emphasis is placed on the mislabeling of figures. Appropriate correction is required.

The following are two examples where errors were found:

- Page 7, Figure 2 description, the gunpowder filling should be labeled 32 not 30.
- Page 7, Figure 6 description, boosters 1,2 & 3 should be 38, 39, & 40.

Claim Objections

4. Claims 7 and 17 are objected to because of the following informalities:

- Grammatical error

Missing a period. Appropriate correction is required.

5. Claim 18 is objected to because of the following informalities:

- Misspelling

“Altered” is misspelled, should be altitude. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 5, 6, 11, and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The following description is unclear and not found in the drawings for further explanation: Multiple boosters inside a barreled, grooved or smooth cylinder attached to the shell base and boosters are serially screwed inside the cylinder with unsymmetrical grooves vertical on the inside and slanted on the outer side.

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8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1 – 21 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

10. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claim 1 recites “[a]n artillery shell, rocket, missile, or vehicle comprising...” However, the recitation “or” in the preamble is alternative in form thus failing to particularly point out and distinctly claim the structure which the applicant regards as the invention.

12. The terms "tighter and stronger" in claims 2, 5, 6, 11, and 12 are relative terms which renders the claim indefinite. The terms “tighter and stronger” are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 1, 17, 18, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz (US 4,131,065) in view of Hagerty (US 6,666,141) and Graydon (US 352,152).**

15. For Claim 1, as best understood, Dietz discloses a missile with boosters stacked in tandem with a cone shaped tail. However, Dietz fails to teach of the boosters having interconnected lids with delay fuses. Hagerty discloses artillery propellant canisters (26) with interconnected lids. Thus, it would be obvious for one of ordinary skill in the art at the time the invention was made to modify the booster system of Dietz in view of Hagerty to comprise of interconnected lids enabling one to efficiently utilize the interior volume of the projectile. Further, Graydon teaches of accelerating projectiles with a series of explosive chambers ignited by a continuous fuse. Thus, it would be obvious for one of ordinary skill in the art at the time the invention was made to modify the booster system of Dietz in view of Graydon to include interconnected explosive chambers ignited by a fuse. One may seek to use this style of booster system in order to cut down on costs on fuel and/or a sophisticated computer system.

16. For Claims 17, 18, 20, and 21, as best understood, the examiner takes official notice that it is old and well known in the art that projectiles are fired from aircraft or from the ground. Therefore, it would have been obvious to have the claimed invention fired from an aircraft or

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ground for purposes of aerial combat, to reach an orbit suitable for a satellite, or to bomb a foreign threat during periods of war.

17. Claims 2-4, 7, 8, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz in view of Hagerty and Graydon as applied to claim 1 above, and further in view of Hamilton (US 3,285,173).

18. For Claim 2, as best understood, Dietz, as modified, teaches of interlocked canisters with lids, but fails to disclose a screwed interconnection mechanism. Hamilton teaches of such a connection (Figure 1). Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Dietz to comprise of a screwed connection means between booster lids because typically during flight, a projectile experiences a majority of forces pulling in a vertical direction. Hence, the screwed lids would provide a secure connection because torquing would be required disengage the booster connection.

19. For Claims 3, 4, 7, and 8, as best understood, Dietz, as modified, teaches of serially stacked explosive chambers in a cylinder for an accelerating projectile.

20. For Claim 13, as best understood, Dietz, as modified, discloses the claimed invention except for the use of wood for a cone shaped tail. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use wood, since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (*In re Leshin*, 125 USPQ 416).

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21. For Claim 14, as best understood, Dietz, as modified, teaches of boosters stacked in a smooth steel cylinder with outer diameter smaller than that of the shell.

22. **Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz in view of Hagerty and Graydon as applied to claim 1 above, and further in view of Hall (US 4,674,706).**

23. For Claim 10, as best understood, Dietz, as modified, fails to teach of a series of concentric inward slanted rings. Hall discloses an extendable ring cone-shaped tail for a projectile. Thus, it would be obvious for one of ordinary skill in the art at the time the invention was made to modify Dietz to comprise of an extendable ring cone-shaped tail for purposes of further streamlining the projectile as taught by Hall, in an attempt to reduce the drag thus enhancing the range of the projectile.

24. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz in view of Hagerty and Graydon as applied to claim 1 above, and further in view of Olsson (US 6,657,174).

25. For Claim 9, as best understood, Dietz, as modified, fails to teach of a changeable shell base comprising of a flexible folded material that unfolds during flight. Olsson teaches of inflatable unfolding tail section for a projectile during flight. Thus, it would be obvious for one of ordinary skill in the art at the time the invention was made to modify Dietz to comprise of an unfolding cone-shaped tail to create greater streamlined projectile as taught by Olsson, to reduce the drag thus enhancing the range.

26. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz in view of Hagerty and Graydon, further in view of Hamilton as applied to claim 2 above, and further in view of Piester (US 3,721,193).

27. For Claims 15 and 16, as best understood, Dietz, as modified, fails to teach of steel wires or fins for in-flight stability. Piester teaches of fins as stabilizers. Thus, it would be obvious for one of ordinary skill in the art at the time the invention was made to modify Dietz to include stabilizers. One may chose to use wires or fins for it is considered a design choice for both serve as a stabilizing mechanism to help better control the pitching or yawing moments the projectile may be subjected to.

28. Claim19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz in view of Hagerty and Graydon as applied to claim 1 above, and further in view of Shnaps (US 2002/0174763 A1).

29. For Claim 19, as best understood, Dietz, as modified, does not disclose the use of a global positioning system (GPS) for guidance. Shnaps teaches of such a system for a projectile. Thus, it would be obvious for one of ordinary skill in the art at the time the invention was made to modify Dietz to the teachings of Shnaps. The incorporation of GPS would allow for one target and track anywhere with great precision thus minimizing the risk of failure or injury to innocent bystanders.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua J. Michener whose telephone number is (571) 272-1467. The examiner can normally be reached on Monday through Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on (571) 272-7045. The fax phone number for the organization where this application or proceeding is assigned is 517-273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joshua J Michener
Examiner
Art Unit 3644

jjm



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